

REMARKS

In reply to the Office Action of August 28, 2003, Applicant submits the following remarks.

The Abstract has been amended to be in the proper language and format. No new matter has been introduced by the amendments to the Abstract.

Claims 1-23 are pending.

Claims 1, 3, and 4 stand rejected under 35 U.S.C. 102(b) over Highgate et al., U.S. 4,565,722 ("Highgate"). Claims 2 and 5-11 stand rejected under 35 U.S.C. 103(a) over Highgate. Claim 12 stands rejected under 35 U.S.C. 103(a) over Highgate and Rawls et al., U.S. 5,527,181 ("Rawls"). Applicants respectfully request that the Examiner reconsider and withdraw these rejections for the following reasons.

Each of the claims in the present application requires a dental separator dimensioned such that it can be inserted between adjacent teeth. Highgate, however, fails to describe or suggest an article meeting those requirements. Highgate discloses the use of a plug or sheath for filling a body cavity, including use as a tooth insert, a Fallopian tube insert, and a breast insert. None of these articles, however, is dimensioned such that it could be inserted between adjacent teeth. The types of inserts disclosed in Highgate include a "cylindrical insert" and a "tapered insert plug". When discussing the "tapered insert," to which the Examiner refers, Highgate describes it as an "endodontic point for insertion." It is designed to be inserted into a nerve cavity after nerve extraction. The value of the insert is that it 1) can expand to fit the nerve cavity, therefore requiring a smaller selection than rubber inserts, and 2) it does not load the outer cosmetic surface of the tooth. There is no teaching in Highgate that the dimensions of the insert are such that it could be used as a dental separator, or suggestion that it could function in such a manner. This is the only conical use disclosed, and the nerve canal of a tooth is a very small space. There is neither discussion nor indication that the conical insert would function as a dental separator, or that a separator could even be fashioned following the teachings of Highgate.

Claim 12 is rejected in light of the combination of Highgate and Rawls. As the primary reference, Highgate, does not teach or suggest the use of a separator, combining it with a secondary reference for a radio-opaque addition is unavailing. As discussed, the claims for a separator are novel and unobvious with respect to Highgate, therefore a modified separator would also be novel and unobvious with respect to Highgate and Rawls.

Claims 1, 13, 16, and 17 stand rejected under 35 U.S.C. 102(b) over von Weissenfluh, U.S. 5,421,725 ("von Weissenfluh"). Claim 18 stands rejected under 35 U.S.C. 103(a) over von Weissenfluh. Claims 14, 15, 21, and 22 stand rejected under 35 U.S.C. 103(a) over von Weissenfluh and Langer et al., U.S. 6,388,043 ("Langer"). Applicants respectfully request that the Examiner reconsider and withdraw these rejections for the following reasons.

Von Weissenfluh discloses a combination of a matrix and wedge to solve the problem of excess filling material in the radicular recess after the repair of a tooth. Accordingly, it would be incorrect to define such a device as a separator, as the function is to ensure that the matrix is tightly fit to the tooth under restoration. The purpose is not to separate the teeth, and there is no indication that von Weissenfluh discloses a device that could exhibit such force. Indeed, such an amount of force would be contrary to von Weissenfluh. Considering the circumstances, where a tooth has been drilled and much of the tooth material removed, putting a large amount of force on the tooth would be very likely to further damage the tooth. As the patient is undergoing restoration, the possibility of causing further damage to the tooth, or harming the alignment of the tooth via separation would not be desirable. Therefore, a separator exerting a large amount of force, as in the present application, would be outside the disclosure of von Weissenfluh.

As von Weissenfluh does not even suggest the use of a dental separator able to push teeth apart, the addition of Langer does not assist in finding obviousness. Although Langer does discuss shape memory alloys, it does so only for orthodontic guide wires in the context of dental appliances. It does not make up for the deficiencies in the primary reference. Neither reference teaches, discloses, or suggests the use of a dental separator where the separator exerts sufficient force on the adjacent teeth to push the teeth apart. Therefore, the claims are both novel and unobvious with respect to von Weissenfluh, Langer, or the combination thereof.

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No fee is believed due. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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